

This Page Is Inserted by IFW Operations
and is not a part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

**As rescanning documents *will not* correct images,
please do not report the images to the
Image Problems Mailbox.**

Translation of German/French Patent Document No. 610,973

Inventor: Marius-Jean-Baptiste Barbarou

Application Date: February 10, 1926

Publication Date: June 21, 1926

Original French Title: Joint d'étanchéité.

CYLINDER GASKET

The present invention relates to a cylinder gasket for joining parts that are usually subjected to a temperature greater than the temperature used to install the gasket.

The object of the invention is to manufacture a gasket in such a way that the sealing capacity increases as the temperature rises.

The inventive cylinder gasket is characterized in that it comprises two parts made of materials having different expansion coefficients.

Other characteristics of the invention will become apparent upon reading the description below and if reference is made to the accompanying drawing in which:

Fig. 1 is a cross-sectional view of a gasket in the form of a ring according to the invention;

Fig. 2 is a view of the same gasket mounted between the cylinder head and the cylinder of an engine;

Fig. 3 is a partial cross-sectional view of another embodiment of the invention.

Referring now to Fig. 1, it is apparent that the gasket comprises two parts A and B. Part B is made of a material that is more expandable than that of part A.

For example, it was assumed that the gasket is annular and that the cross section of the ring is V-shaped. Also by way of example, part A may be made of a non-expandable metal or one that is only slightly expandable, elastic or plastic; and sheet B is made of a metal which is also as expandable as possible, for example, copper.

Assuming that when the gasket is put in place, the two parts to be assembled are brought close the one another, the gasket is compressed and causes the closure of the V. If the unit is then subjected to a rising temperature, for example, the ring B expands more than ring A and causes the V to be opened again, as a result, and the faces of the joint to be pressed against the walls between which the seal must be formed, i.e., the ring is made of a hollow core with grooves along the inside circle situated in the median plane of the core.

The device functions in the same way as in the preceding case, with the diameter of the outside metal ring being less expandable and tending to increase under the effect of expansion of the inside circle.

The inventive gasket is used especially in cases in which the parts to be assembled are made of metals having different coefficients of expansion. A case in point is if the cylinder D is made of steel and the cylinder head B is made of aluminum. It is conceivable that under this condition, the different expansions of the metal make it even more difficult to maintain the seal of the gasket.

It will be understood that the invention is not limited to the embodiments described above and to the special application discussed above.

Instead of being round, the gasket may have the form of a disk, plate, sheet, etc., and it may have any cross-sectional form, with the basic concept of the invention being the deformation of one of the elements under the effect of a greater expansion of the other with the view of obtaining a strong pressure of the faces of the device on the faces of the two parts to be assembled.

It will be understood that if the invention is applied to cases in which parts are joined are subjected to a lower temperature, the greater contraction of one of the elements causes the deformation of the other part.

CLAIM

The object of the invention is a cylinder gasket which is characterized in that said gasket comprises two parts made of material having different expansion coefficients, with the less expandable part deforming under the action of the variations in volume of the more expandable part.

US Patent and Trademark Office
Translations Branch
Martha Witebsky - August 8, 2003

Fig.1

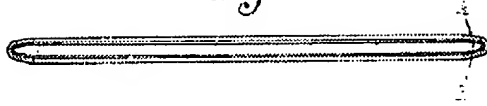


Fig.2

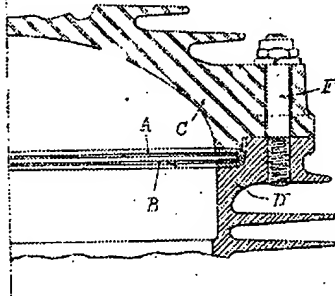


Fig.3

